p117

23 → 24

24.

8·5
= 40

$2x + 7x = 90$

$9x = 90$

$x = 10$

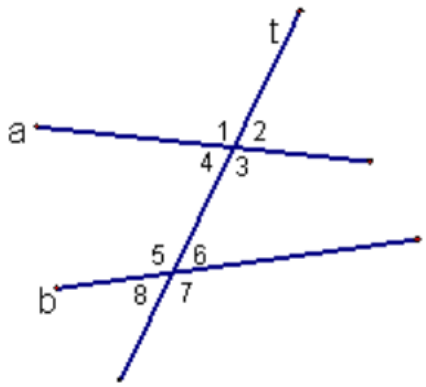
$m\angle CBD = 7(10) = 70°$

Oct 20-11:50 AM

204 Notes 3.3 and 3.4

3.3 Angles formed by Transversals

In the picture to the right, lines a and b are both intersected by line t-the transversal .

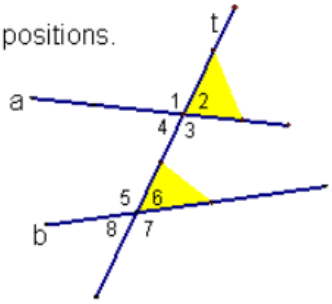


Oct 12-11:57 AM

Corresponding Angles—two angles that occupy corresponding positions.

∠2 and ∠6 are corresponding angles.

Name the rest. ∠3 and ∠7; ∠4 and ∠8; ∠1 and ∠5

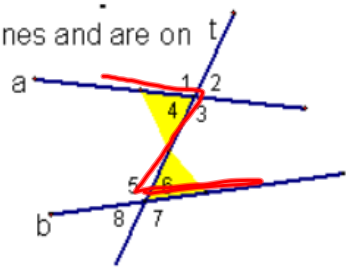


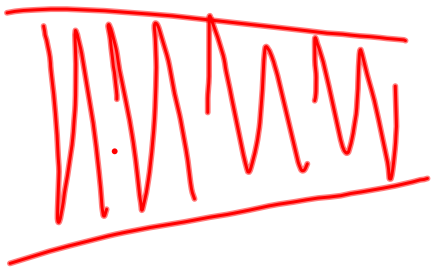
Oct 12-11:58 AM

Alternate interior angles—two angles that lie between the two lines and are on opposite sides of the transversal.

∠4 and ∠6 are alternate interior angles.

Name the rest. ∠3 and ∠5



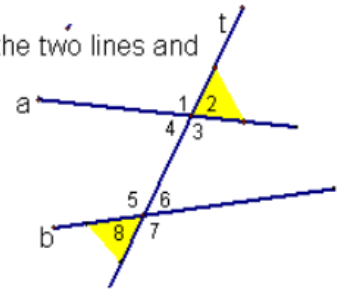


Oct 12-11:59 AM

Alternate exterior angles—two angles that are on the outside of the two lines and are on opposite sides of the transversal.

∠2 and ∠8 are alternate exterior angles.

Name the rest. ∠7 and ∠1

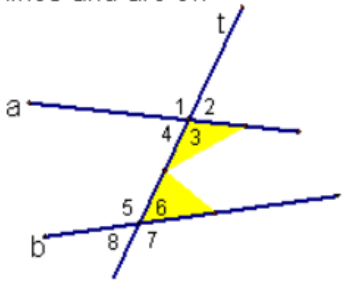


Oct 12-11:59 AM

Same-side interior angles—two angles that lie between the two lines and are on the same side of the transversal.

∠3 and ∠6 are same-side interior angles.

Name the rest. ∠4 and ∠5



Oct 12-11:59 AM

Using the picture to the right, what type of angles are the following?

corr. ∠9 & ∠14

alt. ext ∠9 & ∠16

alt int ∠12 & ∠15

s-side int. ∠11 & ∠15

vertical ∠10 & ∠12

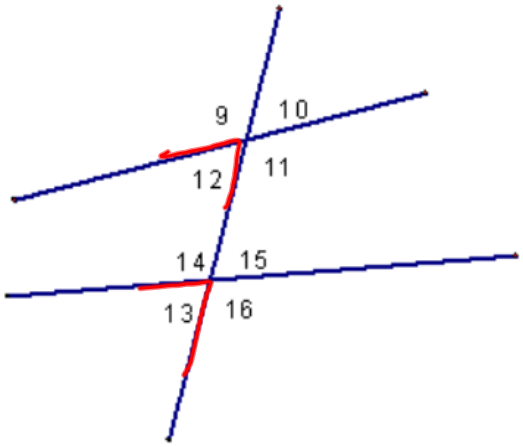
corr. ∠12 & ∠13

alt ext ∠10 & ∠13

alt. int ∠11 & ∠14

s side int ∠12 & ∠14

corr. ∠11 & ∠16



Oct 12-11:59 AM

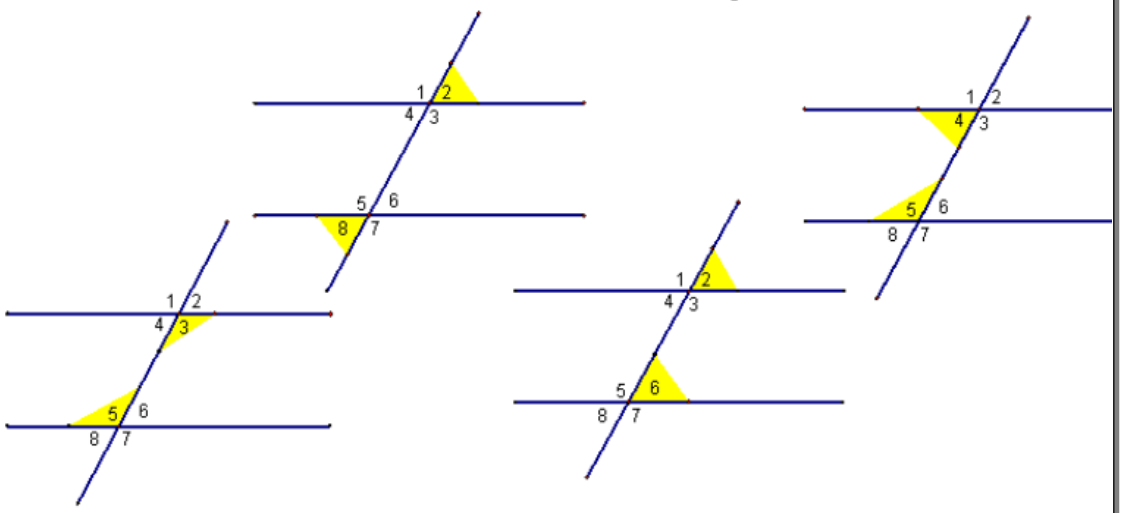
Laptops

Oct 20-9:56 AM

3.4 Parallel Lines and Transversals

Oct 20-9:55 AM

Use the pictures below and label the highlighted angles as corresponding, alternate-interior, alternate-exterior, or same-side interior angles.



Oct 12-12:00 PM

Sketchpad

Oct 13-7:29 AM

Questions:

1. Name a pair of corresponding angles._____
a. What is the relationship between their measurements?_____

2. Name a pair of alternate interior angles._____
a. What is the relationship between their measurements?_____

3. Name a pair of same-side interior angles._____
a. What is the relationship between their measurements?_____

4. Name a pair of alternate exterior angles._____
a. What is the relationship between their measurements?_____

Oct 13-7:30 AM

Conclusions:

Postulate 8
If two parallel lines are cut by a transversal, then each pair of corresponding angles is _____.

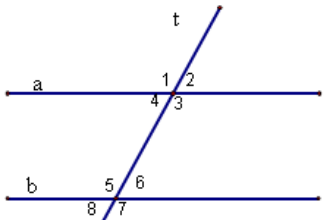
Theorem 3.5
If two parallel lines are cut by a transversal, then each pair of alternate interior angles is _____.

Theorem 3.7
If two parallel lines are cut by a transversal, then each pair of same-side interior angles is _____.

Theorem 3.6
If two parallel lines are cut by a transversal, then each pair of alternate exterior angles is _____.

Oct 20-9:58 AM

Corresponding Angles Postulate -If 2 parallel lines are cut by a transversal, then the corresponding angles are congruent.



What angles are congruent?

$\angle 1 \cong \angle 5$; $\angle 2 \cong \angle 6$; $\angle 4 \cong \angle 8$; $\angle 3 \cong \angle 7$

(Use picture above)

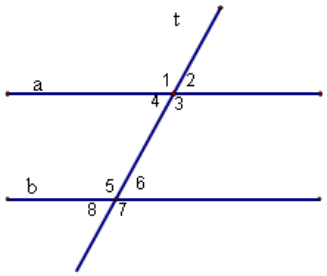
Alternate Interior Angles Theorem -If 2 parallel lines are cut by a transversal, then the alternate interior angles are congruent.

What angles are congruent?

$\angle 5 \cong \angle 3$; $\angle 4 \cong \angle 6$

Oct 12-12:00 PM

Alternate Exterior Angles Theorem -If 2 parallel lines are cut by a transversal, then the alternate exterior angles are congruent.



What angles are congruent?

$\angle 7 \cong \angle 1$; $\angle 8 \cong \angle 2$

Same-side interior Angles Theorem -If 2 parallel lines are cut by a transversal, then the same-side interior angles are supplementary.

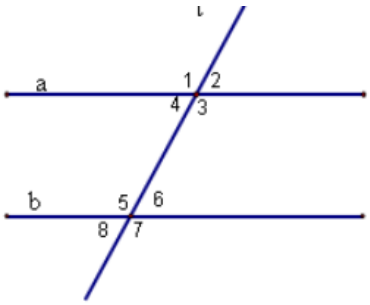
What angles are supplementary?

$m\angle 5 + m\angle 4 = 180$

$m\angle 6 + m\angle 3 = 180$

Oct 12-12:01 PM

For the following examples, answer three questions:
a. what type of angles are the two;
b. Are they = or supplementary; and
c. solve for x.



In all of the problems, use the picture to the right. a||b.

$m\angle 4 = 8x$

$m\angle 6 = 40$

1. a. alt. int.

b. =

c. $x =$ 5

$8x = 40$

$x = 5$

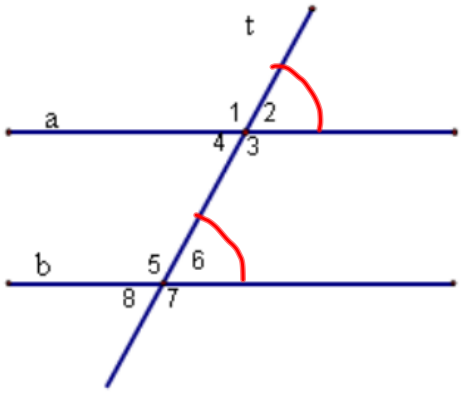
Oct 12-12:01 PM

$m\angle 2 = 3x + 5$
$m\angle 6 = 41$

2. a. corr.

b. $\cong$

c. $x =$ 12



$3x + 5 = 41$
$3x = 36$
$x = 12$

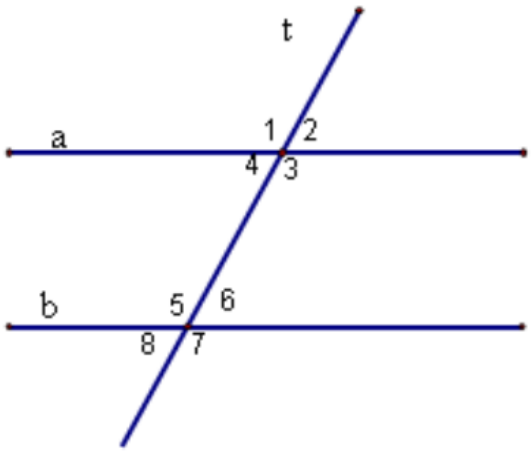
Oct 12-12:01 PM

$m\angle 1 = 4x$
$m\angle 7 = 3x + 15$

3. a. alt. ext

b. $=$

c. $x =$ 15



$4x = 3x + 15$
$-3x \quad -3x$
$x = 15$

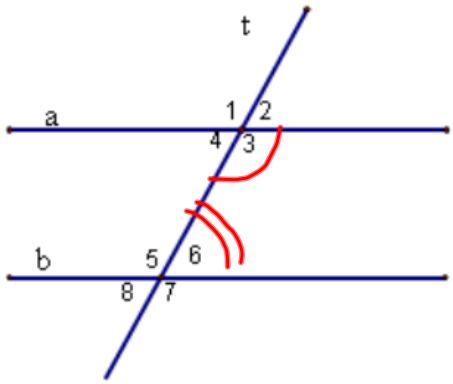
Oct 12-12:02 PM

m∠3 = 13x + 36
m∠6 = 3x

4. a. S-side

b. Suppl.

c. x = 9



$3x + 13x + 36 = 180$

$16x + 36 = 180$

$16x = 144$

$x = 9$

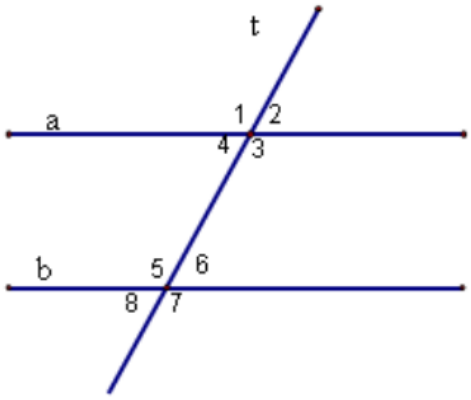
Oct 12-12:02 PM

m∠4 = 8x + 20
m∠8 = 10x - 4

5. a. corr

b. =

c. x = 12



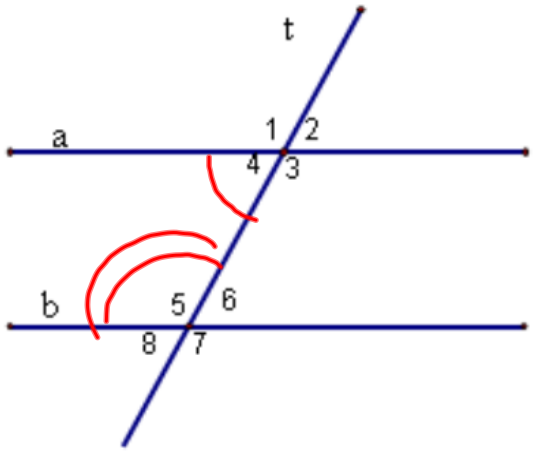
$8x + 20 = 10x - 4$

$24 = 2x$

$12 = x$

Oct 12-12:02 PM

m∠4 = 62
m∠5 = 11x + 8



6. a. S-side

b. Suppl.

c. x = 10

$62 + 11x + 8 = 180$

$11x + 70 = 180$

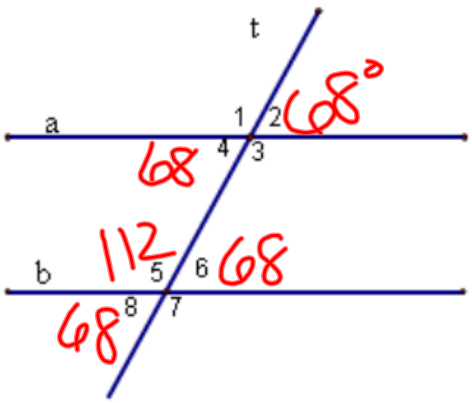
$11x = 110$

$x = 10$

Oct 12-12:02 PM

m∠2 = 68

7. m∠1 = 112
m∠3 = 112
m∠4 = 68
m∠5 = 112
m∠6 = 68
m∠7 = 112
m∠8 = 68

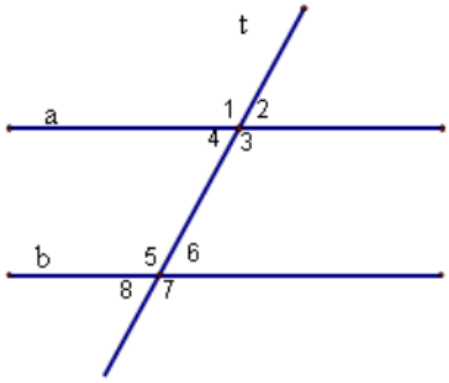


Oct 12-12:02 PM

m∠7 = 125

8.

m∠1 = _____
m∠2 = _____
m∠3 = _____
m∠4 = _____
m∠5 = _____
m∠6 = _____
m∠8 = _____



Oct 12-12:02 PM

HW

p132-133 #s 16-24, 29-37

Oct 12-12:01 PM